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FIT Clinical Decision Making

EXERTIONAL DYSPNEA IN A YOUNG ATHLETE; ARTERIAL HYPOXEMIA CLUES A SINISTER PATHOLOGY

Poster Contributions
Poster Hall B1
Saturday, March 14, 2015, 3:45 p.m.-4:30 p.m.

Session Title: FIT Clinical Decision Making: Structural Heart Disease and Pulmonary Hypertension
Abstract Category: Pulmonary Hypertension and Pulmonary Thrombo-embolic Disease
Presentation Number: 1142-154

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Background: Exercise induced dyspnea (EID) is a common complaint in young athletes. Exercise induced bronchospasm (EIB) is recognized as the most common cause of EID in otherwise healthy athletes. Often these young patients are treated empirically without definitive diagnosis. Clinicians must recognize when more serious pathology is present.

Case: An 18 year old female presented with a 1.5 year history of EID. Her Symptoms were provoked by 5 mins of exertion and relieved with <5 mins rest. She did not experience wheezing. She had been treated for EIB with inhaled corticosteroids, long acting bronchodilator, and as needed short acting bronchodilators without relief. Her only other medication was a triphasic oral contraceptive. She did not use recreational or performance enhancing drugs. She competed in varsity basketball, volleyball, and track. Vital signs were normal, BMI was 21.3. There was no conversational dyspnea. Lungs were clear to auscultation without adventitious sounds. Heart rate was regular; there were no murmurs, rubs, or gallops, there were no lifts or heaves. Laboratory studies including electrolytes, blood counts, liver and renal function were normal. Quantitative D-dimer was 0.42 ug FEU/mL (normal <0.48).

Decision Making: Pulmonary function testing (spirometry, lung volume determination, and diffusing capacity) and transthoracic echocardiogram were normal. Exercise testing reproduced symptoms, arterial oxygen saturation was noted to be 88% at peak exercise. Given the associated hypoxemia with EID we proceeded with CT angiography to assess for vascular abnormalities such as anomalous venous return, intrapulmonary arteriovenous malformations, and intravascular obstruction. A large intraluminal thrombus in the main pulmonary trunk extending into the right and left pulmonary arteries with bilateral pulmonary infarction was identified. Therapeutic anticoagulation was initiated.

Conclusion: Massive pulmonary embolus is an exceedingly rare etiology of exertional dyspnea in young athletes. Hypoxemia during exercise testing was an important clue that something more ominous was lurking which required further evaluation and definitive diagnosis.